



# Npcf\_AMPolicyControl

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The PCF uses the Npcf\_AMPolicyControl API to communicate with the Access and Mobility Management Function (AMF) over the N15 Interface.

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## OpenAPI

OpenAPI Version: 3.0.0

## Info

**Description:** Access and Mobility Policy Control Service API

**Version:** "1.0.0"

**Title:** Npcf\_AMPolicyControl

## Servers

**URL:** '{apiRoot}/npcf-am-policy-control/v1'

**Variables:**

**API Root:**

**Default:** https://example.com

**Description:** apiRoot as defined in subclause subclause 4.4 of 3GPP TS 29.501

# Security

```
- {}
- oAuth2ClientCredentials:
  - npcf-am-policy-control
```

## Paths

### /policies

**Method:** Post

**Request Body:**

**Required/Optional:** true

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/PolicyAssociationRequest'

**Responses:**

'201':

**Description:** Created

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/PolicyAssociation'

**Headers:**

**Location:**

**description:** 'Contains the URI of the newly created resource, according to the structure: {apiRoot}/npcf-am-policy-control/v1/policies/{polAssoId}'

**Required/Optional:** true

**Schema:**

**Type:** string

'400':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/400'

'401':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/401'

'403':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/403'

'404':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/404'

'411':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/411'

'413':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/413'

'415':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/415'

```
'429':
  Reference: 'TS29571_CommonData.yaml#/components/responses/429'
'500':
  Reference: 'TS29571_CommonData.yaml#/components/responses/500'
'503':
  Reference: 'TS29571_CommonData.yaml#/components/responses/503'
Default:
  Reference: 'TS29571_CommonData.yaml#/components/responses/default'
Callbacks:
  policyUpdateNotification:
    '{$request.body#/notificationUri}/update':
      Method: Post
      Request Body:
        Required/Optional: true
        Content:
          Application/JSON:
            Schema:
              Reference: '#/components/schemas/PolicyUpdate'

      Responses:
        '204':
          Description: No Content, Notification was succesfull
        '307':
          Description: temporary redirect
        '400':
          Reference: 'TS29571_CommonData.yaml#/components/responses/400'
        '401':
          Reference: 'TS29571_CommonData.yaml#/components/responses/401'
        '403':
          Reference: 'TS29571_CommonData.yaml#/components/responses/403'
        '404':
          Reference: 'TS29571_CommonData.yaml#/components/responses/404'
        '411':
          Reference: 'TS29571_CommonData.yaml#/components/responses/411'
        '413':
          Reference: 'TS29571_CommonData.yaml#/components/responses/413'
        '415':
          Reference: 'TS29571_CommonData.yaml#/components/responses/415'
        '429':
          Reference: 'TS29571_CommonData.yaml#/components/responses/429'
        '500':
          Reference: 'TS29571_CommonData.yaml#/components/responses/500'
        '503':
          Reference: 'TS29571_CommonData.yaml#/components/responses/503'
        Default:
          Reference: 'TS29571_CommonData.yaml#/components/responses/default'
  policyAssociationTerminationRequestNotification:
    '{$request.body#/notificationUri}/terminate':
      Method: Post
      Request Body:
        Required/Optional: true
        Content:
```

**Application/JSON:****Schema:****Reference:** '#/components/schemas/TerminationNotification'**Responses:****'204':****Description:** No Content, Notification was succesfull**'307':****Description:** temporary redirect**'400':****Reference:** 'TS29571\_CommonData.yaml#/components/responses/400'**'401':****Reference:** 'TS29571\_CommonData.yaml#/components/responses/401'**'403':****Reference:** 'TS29571\_CommonData.yaml#/components/responses/403'**'404':****Reference:** 'TS29571\_CommonData.yaml#/components/responses/404'**'411':****Reference:** 'TS29571\_CommonData.yaml#/components/responses/411'**'413':****Reference:** 'TS29571\_CommonData.yaml#/components/responses/413'**'415':****Reference:** 'TS29571\_CommonData.yaml#/components/responses/415'**'429':****Reference:** 'TS29571\_CommonData.yaml#/components/responses/429'**'500':****Reference:** 'TS29571\_CommonData.yaml#/components/responses/500'**'503':****Reference:** 'TS29571\_CommonData.yaml#/components/responses/503'**Default:****Reference:** 'TS29571\_CommonData.yaml#/components/responses/default'

## /policies/{polAssold}

**get:****Parameters:****- Name:** polAssoId**In:** path**Description:** Identifier of a policy association**Required/Optional:** true**Schema:****Type:** string**Responses:****'200':****Description:** OK. Resource representation is returned**Content:****Application/JSON:****Schema:****Reference:** '#/components/schemas/PolicyAssociation'

```
'400':  
  Reference: 'TS29571_CommonData.yaml#/components/responses/400'  
'401':  
  Reference: 'TS29571_CommonData.yaml#/components/responses/401'  
'403':  
  Reference: 'TS29571_CommonData.yaml#/components/responses/403'  
'404':  
  Reference: 'TS29571_CommonData.yaml#/components/responses/404'  
'406':  
  Reference: 'TS29571_CommonData.yaml#/components/responses/406'  
'429':  
  Reference: 'TS29571_CommonData.yaml#/components/responses/429'  
'500':  
  Reference: 'TS29571_CommonData.yaml#/components/responses/500'  
'503':  
  Reference: 'TS29571_CommonData.yaml#/components/responses/503'  
Default:  
  Reference: 'TS29571_CommonData.yaml#/components/responses/default'  
delete:
```

**Parameters:**

```
- Name: polAssoid  
  In: path  
  Description: Identifier of a policy association  
  Required/Optional: true  
  Schema:  
    Type: string
```

**Responses:**

```
'204':  
  Description: No Content. Resource was succesfully deleted  
'400':  
  Reference: 'TS29571_CommonData.yaml#/components/responses/400'  
'401':  
  Reference: 'TS29571_CommonData.yaml#/components/responses/401'  
'403':  
  Reference: 'TS29571_CommonData.yaml#/components/responses/403'  
'404':  
  Reference: 'TS29571_CommonData.yaml#/components/responses/404'  
'429':  
  Reference: 'TS29571_CommonData.yaml#/components/responses/429'  
'500':  
  Reference: 'TS29571_CommonData.yaml#/components/responses/500'  
'503':  
  Reference: 'TS29571_CommonData.yaml#/components/responses/503'  
Default:  
  Reference: 'TS29571_CommonData.yaml#/components/responses/default'
```

## /policies/{polAssold}/update

**Method:** Post

**Request Body:**

**Required/Optional:** true

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/PolicyAssociationUpdateRequest'

**Parameters:**

- **Name:** polAssoId

**In:** path

**Description:** Identifier of a policy association

**Required/Optional:** true

**Schema:**

**Type:** string

**Responses:**

'200':

**Description:** OK. Updated policies are returned

**Content:**

**Application/JSON:**

**Schema:**

**Reference:** '#/components/schemas/PolicyUpdate'

'400':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/400'

'401':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/401'

'403':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/403'

'404':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/404'

'411':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/411'

'413':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/413'

'415':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/415'

'429':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/429'

'500':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/500'

'503':

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/503'

**Default:**

**Reference:** 'TS29571\_CommonData.yaml#/components/responses/default'

# Components

```

securitySchemes:
  oAuth2ClientCredentials:
    Type: oauth2
    Flows:
      clientCredentials:
        tokenUrl: '{nrfApiRoot}/oauth2/token'
        scopes:
          npcf-am-policy-control: Access to the Npcf_AMPolicyControl API

schemas:
  PolicyAssociation:
    Type: object
    Properties:
      request:
        Reference: '#/components/schemas/PolicyAssociationRequest'
      triggers:
        Type: array
        Items:
          Reference: '#/components/schemas/RequestTrigger'
        minItems: 1
        Description: Request Triggers that the PCF subscribes. Only values "LOC_CH" and
"PRA_CH" are permitted.
      servAreaRes:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/ServiceAreaRestriction'
      rfsp:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/RfspIndex'
      pras:
        Type: object
        additionalProperties:
          Reference: 'TS29571_CommonData.yaml#/components/schemas/PresenceInfo'
        minProperties: 1
      suppFeat:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
    Required:
      - suppFeat
  PolicyAssociationRequest:
    Type: object
    Properties:
      notificationUri:
        Reference: 'TS29571_CommonData.yaml#/components/schemas/Uri'
      altNotifIpv4Addrs:
        Type: array
        Items:
          Reference: 'TS29571_CommonData.yaml#/components/schemas/Ipv4Addr'
        minItems: 1
        Description: Alternate or backup IPv4 Address(es) where to send Notifications.
      altNotifIpv6Addrs:

```

```

    Type: array
    Items:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Ipv6Addr'
    minItems: 1
    Description: Alternate or backup IPv6 Address(es) where to send Notifications.
  supi:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Supi'
  gpsi:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Gpsi'
  accessType:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/AccessType'
  pei:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Pei'
  userLoc:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/UserLocation'
  timeZone:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/TimeZone'
  servingPlmn:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/NetworkId'
  ratType:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/RatType'
  groupIds:
    Type: array
    Items:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/GroupId'
    minItems: 1
  servAreaRes:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/ServiceAreaRestriction'
  rfsp:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/RfspIndex'
  guami:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/Guami'
  serviveName:
    Type: string
    Description: If the NF service consumer is an AMF, it should provide the name of
    a service produced by the AMF that makes use of information received within the
    Npcf_AMPolicyControl_UpdateNotify service operation.
  traceReq:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/TraceData'
  suppFeat:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/SupportedFeatures'
  Required:
    - notificationUri
    - suppFeat
    - supi
  PolicyAssociationUpdateRequest:
    Type: object
  Properties:
    notificationUri:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Uri'
    altNotifIpv4Addrs:
      Type: array

```



```

    Items:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Ipv4Addr'
    minItems: 1
    Description: Alternate or backup IPv4 Address(es) where to send Notifications.
  altNotifIpv6Addrs:
    Type: array
    Items:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Ipv6Addr'
    minItems: 1
    Description: Alternate or backup IPv6 Address(es) where to send Notifications.
  triggers:
    Type: array
    Items:
      Reference: '#/components/schemas/RequestTrigger'
    minItems: 1
    Description: Request Triggers that the NF service consumer observes.
  servAreaRes:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/ServiceAreaRestriction'
  rfsp:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/RfspIndex'
  praStatuses:
    Type: object
    additionalProperties:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/PresenceInfo'
    minProperties: 1
    Description: Map of PRA status information.
  userLoc:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/UserLocation'
  traceReq:
    Reference: 'TS29571_CommonData.yaml#/components/schemas/TraceData'
PolicyUpdate:
  Type: object
  Properties:
    resourceUri:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Uri'
    triggers:
      Type: array
      Items:
        Reference: '#/components/schemas/RequestTrigger'
      minItems: 1
      nullable: true
      Description: Request Triggers that the PCF subscribes. Only values "LOC_CH" and
"PRA_CH" are permitted.
    servAreaRes:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/ServiceAreaRestriction'
    rfsp:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/RfspIndex'
  pras:
    Type: object
    additionalProperties:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/PresenceInfoRm'
    Description: Map of PRA information.

```

```

    minProperties: 1
    nullable: true
  Required:
    - resourceUri
  TerminationNotification:
    Type: object
  Properties:
    resourceUri:
      Reference: 'TS29571_CommonData.yaml#/components/schemas/Uri'
    cause:
      Reference: '#/components/schemas/PolicyAssociationReleaseCause'
  Required:
    - resourceUri
    - cause
  RequestTrigger:
    anyOf:
    - type: string
      enum:
        - LOC_CH
        - PRA_CH
        - SERV_AREA_CH
        - RFSP_CH
    - type: string
      Description:
        This string provides forward-compatibility with future
        extensions to the enumeration but is not used to encode
        content defined in the present version of this API.
      Description:
        Possible values are
        - LOC_CH: Location change (tracking area). The tracking area of the UE has changed.
        - PRA_CH: Change of UE presence in PRA. The UE is entering/leaving a Presence Reporting
        Area.
        - SERV_AREA_CH: Service Area Restriction change. The UDM notifies the AMF that the
        subscribed service area restriction information has changed.
        - RFSP_CH: RFSP index change. The UDM notifies the AMF that the subscribed RFSP index
        has changed.
    PolicyAssociationReleaseCause:
      anyOf:
      - type: string
        enum:
          - UNSPECIFIED
          - UE_SUBSCRIPTION
          - INSUFFICIENT_RES
      - type: string
        Description:
          This string provides forward-compatibility with future
          extensions to the enumeration but is not used to encode
          content defined in the present version of this API.
        Description:
          Possible values are
          - UNSPECIFIED: This value is used for unspecified reasons.
          - UE_SUBSCRIPTION: This value is used to indicate that the session needs to be
          terminated because the subscription of UE has changed (e.g. was removed).
          - INSUFFICIENT_RES: This value is used to indicate that the server is overloaded and
          needs to abort the session.

```